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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,923	11/16/2001	Ryuichi Kasahara	PF2579DIV	7953
466	7590	05/10/2004	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			NGUYEN, HA T	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/987,923	KASAHARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ha T. Nguyen	2812	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on \_\_\_\_.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-16 is/are pending in the application.

    4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-16 is/are rejected.

7) ☐ Claim(s) \_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All    b) ☐ Some \*    c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☒ Certified copies of the priority documents have been received in Application No. 09/598,609.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
            Paper No(s)/Mail Date 11-6-1 & 4-9-3.

4) ☐ Interview Summary (PTO-413)  
            Paper No(s)/Mail Date. \_\_\_\_.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 16 is objected to because of the following informalities: Claim 16 depends from non-existent claim 31. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. Claims 8-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8, recites the limitation “serving as said collector” in line 5, and claim 15 recites "separator is placed in opening of said gasket" in line 2. There is insufficient antecedent basis for these limitations in the claims.

Claims 9-15 variously depend from claim 8, they are rejected for the same reason.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103<sup>©</sup> and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1- 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. (USPN 5072335, hereinafter “Kurabayashi”) in view of JPN 7-35379, hereinafter “JPN1”).

Referring to Figs. 1-4 and related text, Kurabayashi discloses [Re claims 1, 2, 4, 8, and 11] a method of forming an electric double layer capacitor, said method comprising the steps of mixing a polarization electrode material into at least part of a surface region of a base material 2 having an electrical conductivity for serving as a collector so that at least said polarization electrode material 61 is partially shown on said surface region of said base material; forming at least a pair of unitary-formed electrode structures serving as both a collector and a polarization electrode 11,61; permeating an electrolyte into said unitary- formed electrode structures; and placing said unitary-formed electrode structures to sandwich a separator 5, Kurabayashi also discloses forming unevenness on collecting electrode (see col. 3, lines 8-42). But Kurabayashi does not disclose expressly removing a surface part of said base material to increase an area of said shown polarization electrode material from said surface region of said base material to increase an area of said electrode material by heat. However, the missing limitations are well known in the art because JPN1 discloses these features (See Means for the solving the issue ). A person of ordinary skill is motivated to modify Kurabayashi with JPN1 to obtain lower contact resistance.

[Re claims 3 and 10] The examiner takes Official Notice that plasma irradiation is conventionally used to remove materials by sputtering.

[Re claims 11 and 14] Kurabayashi also discloses wherein said base material sheet-shaped and the uneven surface part is one side of said sheet (see Fig. 2). In the combined teaching the uneven surface corresponds to the removed portion.

[Re claims 5-6 and 12-13] Kurabayashi does not discloses expressly the base material including a plastic material. However, this is commonly done in the art, as shown by JPN1, in the case this is used, it would have been obvious to remove a surface part by ozone irradiation or an organic solvent, as conventionally done to remove plastic, an organic material.

[Re claim 9] The combined teaching does not disclose that the unitary-formed electrode structures are placed so that surface-removed sides of said unitary-formed electrode structures are in contact with said separator. However, this would have been obvious for a person of

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ordinary skill in the art to do so in order to increase the surface area of the electrodes in contact with electrolyte thereby increasing the capacitance of the capacitor.

Therefore, it would have been obvious to combine Kurabayashi with JPN1 to obtain the invention as specified in claims 1-14.

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi in view of JPN1 , as applied above, and further in view of Watanabe et al. (USPN 4783723, hereinafter "Watanabe").

The combined teaching of Kurabayashi and JPN1 discloses substantially the limitations of claims 15 and 16, as shown above.

But it does not disclose expressly the separator is placed in an opening of a gasket for placing said unitary-formed electrode structures to sandwich said separator before said gasket is adhered with said unitary-formed electrode structures by curing.

However, the missing limitation are well known in the art because Watanabe discloses these features (See Figs. 5-7), it is inherent that separator is placed in the opening before the step of adhering.

A person of ordinary skill is motivated to modify Kurabayashi and JPN1 with Watanabe to obtain a flexible design suitable for a specific application .

Therefore, it would have been obvious to combine Kurabayashi and JPN1 with Watanabe to obtain the invention as specified in claims 15 and 16.

### ***Conclusion***

6. The prior art relevant to the disclosure of this application and not being used in the rejections.

USPN 6493210 to Nonaka et al. for teaching the removal of a surface portion of the base material to expose carbon particles.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha Nguyen whose telephone number is (571) 272-1678. The

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examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week. The telephone number for Wednesday is (703) 560-0528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Neibling, can be reached on (571) 272-1679. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Ha Nguyen

Primary Examiner

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